

Claim Listing

This listing of claims will replace all prior versions, and listings, of claims in the application.

1-45. Cancelled.

46. (Previously Presented) A process for agglomerating biologically active microorganisms comprising:

contacting a first enteropathogenic microorganism with a first nanoparticle, the first nanoparticle comprising a hydrophobic polymeric core and multiple hydrophilic polymeric linking agents bound to the hydrophobic polymeric core, the hydrophilic linking agents having a degree of polymerization of between about 10 and about 200, the nanoparticle further comprising a biofunctional material bound to the hydrophilic linking agents, the biofunctional material being bound to the hydrophilic linking agent at a distance from the hydrophobic core, the biofunctional material comprising a first binding site for a first adhesin present on the surface of the enteropathogenic microorganism;

binding the first adhesin of the first enteropathogenic microorganism to the first binding site of the biofunctional material to form a nanoparticle/microorganism complex; and

binding a second adhesin of a second enteropathogenic microorganism to a second binding site of the biofunctional material of the nanoparticle/microorganism complex.

47. (Previously Presented) The process of claim 46, further comprising contacting the nanoparticle/microorganism complex with a second nanoparticle, the second nanoparticle being structurally identical to the first nanoparticle; and

binding a third adhesin of the first enteropathogenic microorganism to a binding site of the second nanoparticle.

48. (Previously Presented) The process of claim 46, wherein the enteropathogenic microorganism is a eukaryote.

49. (Previously Presented) The process of claim 46, wherein the enteropathogenic microorganism is a virus.

50. (Previously Presented) The process of claim 46, wherein the enteropathogenic microorganism is a prokaryote.

51. (Previously Presented) The process of claim 46, wherein the enteropathogenic microorganism is a commensal microorganism.

52. (Previously Presented) The process of claim 46, wherein the enteropathogenic microorganism is a parasite.

53. (Previously Presented) The process of claim 46, wherein the adhesin of the first enteropathogenic microorganism binds to the first binding site via an attachment/effacing binding mechanism.

54. (Previously Presented) The process of claim 46, wherein the first biofunctional material is a constituent of the extracellular matrix.

55. (Previously Presented) The process of claim 46, wherein the first enteropathogenic microorganism and the second enteropathogenic microorganism are the same.

56. (Previously Presented) The process of claim 46, wherein the first enteropathogenic microorganism and the second enteropathogenic microorganism are different.

57. (Previously Presented) The process of claim 46, wherein the first binding site and the second binding site are structurally the same.

58. (Previously Presented) The process of claim 46, wherein the first binding site and the second binding site are structurally different.

59. (Previously Presented) The process of claim 46, further comprising releasing the first nanoparticle from an encapsulation in the area of the first enteropathogenic organism.

60. (Previously Presented) The process of claim 46, wherein the nanoparticle/microorganism complex is formed within the digestive system of an animal.

61. (Previously Presented) A process for agglomerating biologically active microorganisms comprising:

contacting a first enteropathogenic bacterium with a first nanoparticle, the first nanoparticle comprising a hydrophobic polymeric core and multiple hydrophilic

polymeric linking agents bound to the hydrophobic polymeric core, the hydrophilic linking agents having a degree of polymerization of between about 10 and about 200, the nanoparticle further comprising a biofunctional material bound to the hydrophilic linking agents, the biofunctional material being bound to the hydrophilic linking agent at a distance from the hydrophobic core, the biofunctional material comprising a first binding site for a first adhesin present on the surface of the enteropathogenic bacterium;

binding the first adhesin of the first enteropathogenic bacterium to the first binding site of the biofunctional material to form a nanoparticle/bacterial complex; and

binding a second adhesin of a second enteropathogenic bacterium to a second binding site of the biofunctional material of the complex.

62. (Previously Presented) The process of claim 61, further comprising contacting the complex with a second nanoparticle, the second nanoparticle being structurally identical to the first nanoparticle; and

binding a third adhesin of the first enteropathogenic bacterium to a binding site of the second nanoparticle.

63. (Previously Presented) The process of claim 61, wherein the enteropathogenic bacterium is of the genera *Campylobacter*.

64. (Previously Presented) The process of claim 63, wherein the enteropathogenic bacterium is *C. jejuni*.

65. (Previously Presented) The process of claim 61, wherein the first biofunctional material is a constituent of the extracellular matrix of a consumable livestock.

66. (Previously Presented) The process of claim 65, wherein the consumable livestock is a chicken.

67. (Previously Presented) The process of claim 61, wherein the first biologically active material is D-mannose.

68. (Previously Presented) The process of claim 61, further comprising releasing the first nanoparticle from an encapsulation in the area of the first enteropathogenic organism.

69. (Previously Presented) The process of claim 61, wherein the nanoparticle/bacterium complex is formed within the digestive system of an animal.